

Simultaneous Constraints on Higgs Properties & SUSY Partners in the pMSSM

We will address the questions: “What do direct SUSY searches tell us about the Higgs & what do precision Higgs measurements say about SUSY?” within the context of the pMSSM with either neutralino or gravitino LSPs.

The analysis consists of 2 parts: (i) Determine the ‘coverage’ of the pMSSM parameter space by the suite of ATLAS (& some CMS) SUSY analyses at 7 & 8 TeV, then extrapolate to 14 TeV. We then use these results to constrain possible deviations in Higgs properties from SM expectations.

(ii) Use the current & extrapolated precision on LHC/ILC Higgs signal strength measurements to extract constraints on sparticle properties.

These analyses will be performed using several existing & one new pMSSM model sets

